

### ABSTRACT OF THE DISCLOSURE

A VSB reception system includes a sequence generator for decoding a symbol corresponding to the supplemental data and generating a predefined sequence included in the supplemental data at VSB transmission system. The reception system also includes a modified  
5 legacy VSB receiver for processing the data received from the VSB transmission system in a reverse order of the VSB transmission system by using the sequence, and a demultiplexer for demultiplexing the data from the modified legacy VSB receiver into the MPEG data and the supplemental data. The VSB reception system also includes a supplemental data processor for processing the supplemental data segment from the demultiplexer in a reverse order of the  
10 transmission system, to obtain the supplemental data, thereby carrying out the slicer prediction, decoding, and symbol decision more accurately by using the predefined sequence, to improve a performance.